

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A method of measuring moisture content, comprising the following steps:

using a microwave cavity resonator that is provided with two iris plates which are arranged perpendicular to and spaced along a tube axis of a wave guide, each iris plate having a hole located at a mid-point of said wave guide, a portion between the iris plates forming a resonator portion and the outside of each of the iris plates forming traveling wave portions, and with a slit in which a specimen is disposed being placed in a manner so as to cross the resonator portion;

setting a measuring frequency in a predetermined range between 1 to 25 GHz; and
measuring the moisture content of the specimen based upon a difference in resonance peak level between cases when the specimen is not present in the slit and the specimen is present in the slit,

measuring the moisture percentage of the specimen based upon a value obtained by dividing the difference in resonance peak levels between the presence and absence of the specimen by a difference in resonance frequency between the presence and absence of the specimen,

wherein measurements are carried out on a specimen of a sheet-shaped material bearing a coat layer on the surface thereof as well as on a specimen of a sheet-shaped material without the coat layer, and

wherein the moisture content or the moisture percentage of only the coat layer is determined by subtracting the measured value of the specimen without the coat layer from the measured value of the specimen with the coat layer, and

wherein the resonance peak which occurs when the specimen is present in the slit has a lower Q value than the resonance peak which occurs when the specimen is not present in the slit.

Claim 2 (canceled)

Claim 3 (Canceled)

Claim 4 (Currently Amended) A method of measuring moisture content comprising the steps of:

using a microwave cavity resonator that is provided with two iris plates which are arranged perpendicular to and spaced along a tube axis of a wave guide, each iris plate having a hole located at a mid-point of said wave guide, a portion between the iris plates forming a resonator portion and the outside of each of the iris plates forming traveling wave portions, and with a slit in which a specimen is disposed being placed in a manner so as to cross the resonator portion;

setting a measuring frequency in a predetermined range between 1 to 25 GHz; and
measuring the moisture content of the specimen based upon a difference in resonance peak level between cases when the specimen is not present in the slit and the specimen is present in the slit,

measuring the moisture percentage of the specimen based upon a value obtained by dividing the difference in resonance peak levels between the presence and absence of the specimen by a difference in resonance frequency between the presence and absence of the specimen,

wherein measurements are carried out on a specimen of a sheet-shaped material bearing a plurality of coat layers laminated on the surface thereof as well as on a specimen of a sheet-shaped material bearing coat layers except for the outermost coat layer of the coat layers, and

wherein the moisture content or the moisture percentage of only the outermost coat layer is determined by subtracting the measured value of the specimen without the outermost coat layer of the coat layers from the measured value of the specimen with the plurality of coat layers, and

wherein the resonance peak which occurs when the specimen is present in the slit has a lower Q value than the resonance peak which occurs when the specimen is not present in the slit.

Claim 5 (Previously Presented) The method of measuring moisture content according claim 1, further comprising the steps of:

measuring a temperature dependency of the resonance peak level preliminarily,
detecting a temperature of the microwave cavity resonator, a temperature of the surroundings of the slit or a temperature of the specimen when measuring the specimen, and
correcting the measured resonance peak level value based upon the temperature dependency by using the detected temperature.

Claim 6 - Claim 18 (Canceled)

Claim 19 (Newly Submitted) The method of measuring moisture content according to claim 4, further comprising the steps of:

- measuring a temperature dependency of the resonance peak level preliminarily,
- detecting a temperature of the microwave cavity resonator, a temperature of the surroundings of the slit or a temperature of the specimen when measuring the specimen, and
- correcting the measured resonance peak level value based upon the temperature dependency by using the detected temperature.